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**PATENT APPLICATION
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Customer No.: 23641

Application No.: 10/630875

Confirmation
No.: 7941

Filing Date: July 30, 2003


Attorney
Docket No.: 29595/82608First Named
Inventor: Garry E. BalthesGroup Art
Unit: 1771Examiner
Name: Jennifer A. BoydTitle: LAMINATED COMPOSITION FOR
A HEADLINER AND OTHER
APPLICATIONS

**RESPONSE PURSUANT TO
37 CFR § 1.116
EXPEDITED PROCEDURE
GROUP ART UNIT 1771**

Certificate Under 37 CFR 1.8(a)

I hereby certify that this correspondence is
being facsimile transmitted to Examiner
Jennifer Boyd, United States Patent and
Trademark Office; Fax No. (571) 273-8300.

on May 10, 2006


Zellma Grunden

AFFIDAVIT PURSUANT TO 37 C.F.R. § 1.132

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I declare as follows:

1. I, Garry E. Balthes, am currently the President of Research, Development and Consulting at FlexForm Technologies, LLC. I have been employed at FlexForm Technologies, LLC since March of 2001.

Serial No. 10/630875
Docket No. 29595-82608

2. I am a named inventor of the above-referenced patent application and I am, therefore, knowledgeable about the disclosure and claims therein.

3. I have experience with composite and laminated structure technologies. I have been developing and manufacturing such composites since August 1992. Prior to this date, I served as Manager of Research and Development for 15 years, mostly in mechanical construction, and have previously received both Canadian and United States Patents on mechanical inventions.

4. I understand that in the Office Action dated January 30, 2006, in the above-identified application, the Examiner has rejected Claims 19-26 on various references including the Jarrard et al. Patent (U.S. Patent No. 6,871,898). It is my understanding that the basis for this rejection is that the Examiner believes the flexible "soft cover top" for a convertible automobile is the same thing as a "headliner for a vehicle" comprising a "headliner core layer" from the claimed invention.

5. The flexible soft cover of a convertible automobile top is not the same thing as a rigid flexible headliner. On its face, one skilled in the art clearly understands the distinction between soft flexible automobile convertible cover tops and rigid automobile headliners. As is commonly known, soft flexible convertible tops are made from fabric-like panel material. The soft cover top can be placed on a frame that moves the soft cover over-top or away-from the passenger compartment of an automobile.

6. Conversely, a headliner is a rigid structural panel body that is located in the passenger compartment of an automobile above the head of the occupant. Such headliners are required to demonstrate stiffness and rigidity (among other parameters) in order to qualify as a headliner. This is not to say that such parameters cannot vary, rather, there needs to be some level of rigidity that a fabric-like material, such as the soft cover disclosed in the Jarrard et al. patent, cannot achieve.


7. To further demonstrate the distinctions between a "headliner" and a "soft cover" convertible top cover, accompanying this declaration is a "Statement of Work for Class 3 Recyclable Headliner" specification by Johnson Controls dated October 1, 2002. Of particular interest is the Benchmark Data section from pages 28-29. Acceptable headliners in this example

Serial No. 10/630875
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must have an offset yield strength minimum of 17N; a stiffness minimum of 5.0N/mm; and a toughness minimum of 70%. Furthermore, the Cantilever sag test requires deflection of less than 10mm. In contrast, the flexible soft cover disclosed in Jarrard et al. must be sufficiently flexible to be bendable to an angle of 45° when applying a force as little as 100 g*cm in its Cantilever bend test. (See col. 2, lns. 6-12.) Clearly one skilled in the art can easily recognize the distinctions between a "headliner" or "headliner core layer" and a flexible soft cover convertible top.

8. The undersigned declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and, further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Declared at ELKHART, Indiana, this 5TH day of MAY, 2006.

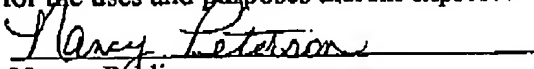

Garry E. Bakthes

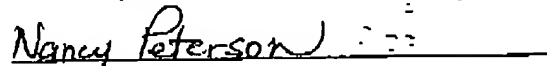
State of Indiana)

County of LaGrange)

ss:

On this 5 day of May, 2006, before me, a Notary Public in and for the County and State aforesaid, appeared Garry E. Bakthes, to me personally known to be the same person whose name is subscribed to the foregoing instrument, and acknowledged that he executed said instrument as his free and voluntary act and for the uses and purposes therein expressed.


Nancy Peterson
Notary Public


Nancy Peterson
Printed Name

My Commission Expires: 2/4/12
County of Residence LaGrange

**BARNES & THORNBURG LLP**

600 One Summit Square
Fort Wayne, Indiana 46802
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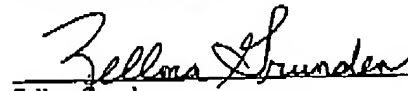
**PATENT APPLICATION
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Group Art Unit: 1771
Examiner Name: Jennifer A. Boyd
Title: LAMINATED COMPOSITION FOR A HEADLINER AND OTHER APPLICATIONS

Certificate Under 37 CFR 1.8(a)

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450

on February 23, 2005


Zellma Grunden

AFFIDAVIT PURSUANT TO 37 C.F.R. § 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I declare as follows:

1. I, Garry E. Balthes, am currently the President, Research, Development and Intellectual Properties at FlexForm Technologies, LLC. I have been employed at FlexForm Technologies, LLC since March of 2001.

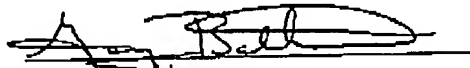
191262v1

2. I am a named inventor of the above-referenced patent application and I am, therefore, knowledgeable about the disclosure and claims therein.
3. I have experience with composite and laminated structure technologies. I have been developing and manufacturing such composites since August 1992. Prior to this date I served as Manager of Research and Development for 15 years mostly in mechanical construction, and have previously received both Canadian and United States Patents on mechanical inventions.
4. I understand that in the Office Action dated October 28, 2004, in the above-referenced application, the Examiner has rejected Claims 19-26 based, in particular upon the Porter reference (U.S. Patent #5,895,301). It is my understanding that the basis for this rejection is that the Examiner believes Porter discloses a cellulosic web that is being equated to the core layer recited in Claim 19. The Examiner is also equating the "scrim" of Porter to the claimed "woven fiber layer," the "impregnated cellulosic web" of Porter to the claimed "film layer," and the "low density adhesive layer" of Porter to the claimed "permeability-resistance film layer."
5. Upon review of the Porter reference, it is clear that it does not describe the claimed invention. It is understood that, as amended, Claim 19 now recites a "headliner core layer." The term "headliner" is a structural panel body that is located in the passenger compartment of a vehicle above the head of the occupant(s). The Porter reference is specifically directed to a "flexible, vapor-porous, cellulosic web made with inexpensive fibers ... [that] is easily hand torn like a paper product." (Col. 1, lines 62-65.) Specifically, the composite of Porter is used as housewraps, garments, and packaging. (See col. 1, line 20, and col. 2, lines 6-7.) Clearly, a laminate that is compared to an easily torn paper product is not equivalent to a headliner as specifically claimed in Claim 19. It is known by those in the automobile industry that there are specific mechanical properties required for head liner construction, which must meet specific testing requirements. Attached with this statement are copies of example headliner specifications from both Ford Motor Company and Johnson Controls. These specifications are in stark contrast to the requirement of Porter that its laminate "be torn by hand with no

more effort than that required to tear a piece of paper." (Col. 4, lines 14-15.) Clearly headliners and paper towels are different structures. Another distinction is that Claim 19 recites a film layer located on the first surface of the headliner core layer. In contrast, Porter discloses webs whose fibers are treated with a latex polymeric resin. (See col. 3, lines 18 and 19.) Individual fibers being treated with a resin is not a composite layer applied to the surface of a second layer. In Porter, it appears that the resin permeates throughout the body of the web, as evidenced by the statements that the resin narrows the pores through the webs. (See col. 3, lines 17-34.) This clearly indicates that the resin is intended to be absorbed in the body of the web, rather than be a layer that is located on the surface of a body.

6. The undersigned declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.


Declared at Elkhart, Indiana, this 17th day of February, 2005.


Garry E. Balthes

State of Indiana)

County of Elkhart) ss:

On this 17th day of February, 2005, before me, a Notary Public in and for the County and State aforesaid, appeared Garry E. Balthes, to me personally known to be the same person whose name is subscribed to the foregoing instrument, and acknowledged that he executed said instrument as his free and voluntary act and for the uses and purposes therein expressed.


Notary Public
Katherine Groth
Printed Name

My Commission Expires: 9/17/10

County of Residence: St. Joseph



ENGINEERING MATERIAL SPECIFICATION

Material Name

Specification Number

HEADLINER, INTEGRAL AIR DUCT

WSB-M15P38-A

1 SCOPE

The material defined by this specification is a unitized formed assembly.

2. APPLICATION

This specification was released originally for the integral air duct headliner on the 1992 Econoline.

3. REQUIREMENTS

3.1 STATISTICAL PROCESS

Suppliers must conform to the requirements of Ford Quality System Standard Q-101. A mutually acceptable Control Plan as described therein is required for material/source approval. Appropriate statistical tools must be used to analyze process/product data so that variation in the final product is continuously reduced.

3.2 INFRARED SPECTROPHOTOMETRY AND/OR THERMAL ANALYSIS

Ford Motor Company, at its option, may conduct infrared and/or thermal analysis of material/parts supplied to this specification. The IR spectra and thermograms established for initial approval shall constitute the reference standard and shall be kept on file at the designated material laboratory. All samples shall produce IR spectra and thermograms that correspond to the reference standard when tested under the same conditions.

3.3 CONDITIONING AND TEST CONDITIONS

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 C and 50 +/- 5% relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

3.4 CONSTRUCTION

As specified on engineering drawing

3.5 WEIGHT

As specified on engineering drawing

Date	Release No.	Released
1994 09 16	WB00110043054355	Released D. Ruono K. Minnich S. Ferns

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ENGINEERING MATERIAL SPECIFICATION

WSB-M15P38-A

3.6 BOND JOINT CONFIGURATION

3.6.1 12 mm overlap bond, min.

3.6.2 7 mm adhesive bead, nominal

3.7 90 DEGREE PEEL ADHESION, min
(ASTM D 903, except 90 degrees and 50 mm/minute)

Test Method: Cut separate 25 mm wide test pieces from the air duct headliner interface with the bond joint configuration of para 3.6. Condition one test piece for each exposure shown below. After exposure, pull at 90 degrees with a jaw separation rate of 50 mm/minute. Report adhesion values and mode of failure. Note: Adhesion values must be met irrespective of failure mode.

3.7.1 Original

26 N ✓

3.7.2 At 85 +/- 2 C

26 N ✓

(Precondition for 30 minutes at 85 +/- 2 C)

3.7.3 After Heat Aging 7 days at 85 +/- 2 C

26 N ✓

3.7.4 After the following cycle:

26 N ✓

- 6 h at 85 +/- 2 C and 90 +/- 5 % Relative Humidity
- 6 h at - 35 +/- 2 C
- 12 h at 85 +/- 2 C
- 6 h at - 35 +/- 2 C
- 6 h at 85 +/- 2 C and 90 +/- 5 % Relative Humidity

3.8 AIR PERMEABILITY, max
(ASTM D 3574, Test G)

Duct

120 cm³/s

Headliner below duct area

120 cm³/s3.9 FOGGING (Duct and Adhesive System)
(FLM EO 116-03, 3 h at 100 C)

Fog Number, min

60 ✓

Formation of a clear film, droplets or crystals is cause for rejection.

3.10 ODOR (Duct and Adhesive System), max
(SAE J1351)

Rating 2

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ENGINEERING MATERIAL SPECIFICATION

WSB-M15P30-A

3.11 ADDITIONAL REQUIREMENTS

Specific requirements for material and/or manufactured parts shall be specified on the Engineering Drawing. Engineering parts specification, and/or performance specifications. All critical areas with respect to these properties shall be clearly designated on the Engineering drawing.

3.12 SUPPLIER'S RESPONSIBILITY

All materials supplied to this specification must be equivalent in all characteristics to the material upon which approval was originally granted.

Prior to making any change in the properties, composition, construction, color, processing or labelling of the material originally approved under this specification, whether or not such changes affect the material's ability to meet the specification requirements, the Supplier shall notify Purchasing, Toxicology, and the affected Materials Engineering activity of the proposed changes and obtain the written approval of the Materials Engineering activity. Test data, test samples and a new code identification are to be submitted with the request.

Substance restriction imposed by law, regulations or Ford, apply to the materials addressed by this document. The restrictions are defined in Engineering Material Specification WSS-M99P9999-A.

4. APPROVAL OF MATERIALS

Materials defined by this specification must have prior approval by the responsible Materials Engineering activity. Suppliers desiring approval of their materials shall first obtain an expression of interest from the affected Purchasing, Design and Materials Engineering activity. Upon request, the Supplier shall submit to the affected Materials Engineering activity a completed copy of their laboratory test reports, signed by a qualified and authorized representative of the test facility, demonstrating full compliance with all the requirements of this specification (test results, not nominal values), the material designation and code number, and test specimens for Ford evaluation. Ford's engineering approval of a material will be based on its performance to this specification and on an assessment of suitability for intended process and/or application. Upon approval, the material will be added to the Engineering Material Approved Source List.

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Inc Oct 07 08:43:15 2003

**JOHNSON
CONTROLS**

PRODUCT ENGINEERING SPECIFICATION: P00373
PROJECT: Standard Headliner Performance Specification
RELEASE DATE: 9/26/02
ORIGINATION DATE: 10/31/00

APPROVALS

Title	Name	Date
Product Validation Director	<u>Scott Spykerman</u>	<u>9/26/02</u>
Product Engineering Director	<u>David Ozlos</u>	<u>9/26/02</u>
Product Engineering Chiefs, OHP	<u>John Cekander</u>	<u>9/26/02</u>
	<u>Michael Scille</u>	<u>9/26/02</u>
	<u>Dave Ernst</u>	<u>9/26/02</u>
	<u>William Hornik</u>	<u>9/26/02</u>
Product Validation Manager	<u>Arnie Suigussaar</u>	<u>9/26/02</u>
Product Validation Test Engineer	<u>Pam Morris</u>	<u>9/26/02</u>

<u>Revision Level</u>	<u>Description of Revision</u>	<u>Date</u>
A	Initial Release	1/2/01
B	Revised per review of all interior components: - Signature approval page changed to add Director of Engineering and Director of Validation. - High temp segment of environmental cycle changed from 90C to 85C. - Heat age temp changed from 88C to 85C. - Fogging test removed, moved to Standard Material & Finish Durability Specification. - Odor test removed, moved to Standard Material & Finish Durability Specification. - Created section for Material Characterization, moved 3 tests to that	6/4/01

section (Finished Mass, Strength, Stiffness,
& Toughness, and Rigidity).

- Added one test to the Material
Characterization section (Cantilever Sag).

C

Revised coupon size on three tests to match 3" x 12"
die;

7/17/01

- Humidity resistance coupon changed to 305 mm
from 400 mm
- SST coupon changed from 300 mm to 305 mm
- Cantilever sag coupon changed from 300 mm to
305 mm

D

Revised acceptance criteria on Bond Strength test to
include cohesive failure of cover stock foam.

8/23/01

E

Corrected TM call out on Indentation & Recovery to
TM-OHS-011 from 029 and on Rigidity to TM-OHS-016
From 015.

4/19/02

F

Added DMA 3-point bend test to Material Characterization
section for Developmental testing.

9/26/02

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I. Scope

This specification describes the performance requirements for a typical headliner. It is intended to contain requirements that are "real world" and result in excellent field performance. The requirements were developed with the intention to represent a 10 year, 150,000 mile life by the 95th percentile user. This specification also uses DFMEA, field studies and warranty history as input where applicable.

The sample sizes and reliability levels (RVC) required are addressed in the test plans (DVP&R) of specific programs and are not included in this performance specification.

II. General Requirements

1. Environmental Cycle

Parameters: With the headliner mounted in vehicle position with design-representative attachments and mating components, expose to the following profile:

2.5 hr ramp
5.5 hrs @ 85° C
2.5 hr ramp
5.5 hrs @ -30° C
2.5 hr ramp
5.5 hrs @ 38°C / 95% RH
Run a total of 7 times

Note: The profile can be started at any step, humidity should be considered as the starting point for glued-in headliners.

Test Method: TM-GEN-002

Requirements: There shall be no objectionable distortion, color change, staining, delamination, or other undesirable effects. Sag must not exceed 6 mm on unsupported edges, 10 mm on other surfaces.

2. Heat Age

Parameters: Expose whole headliners to 85° C for 168 hrs.

Test Method: TM-GEN-010

Requirements: There shall be no objectionable staining, delamination, or other undesirable effects. Color change must be rated 4 or better per ISO/ AATCC gray scale.

III. Specific Requirements

1. Bond Strength

Parameters: Test bond strength of cover stock to substrate in original condition and after environmental, humidity age, heat age, and hydrolytic stability (if applicable).

Test Method: TM-GEN-023

Requirements: 12N/50mm, or cohesive failure of substrate or cover stock foam.

Alternate test method for deep draw areas: TM-OHS-27

Requirements: Cohesive failure of the substrate or cover stock foam. A clean removal of the substrate or cover stock composite is

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